PINCHOT INSTITUTE
FOR CONSERVATION

Big Fire Lessons Learned in the Bitterroot Valley

July 2004

A report prepared by
the Pinchot Institute for Conservation
for the USDA Forest Service,
Bitterroot National Forest.

Leadership in Forest Conservation Thought, Policy and Action

1616 P Street NW, Washington, DC 20036 202/797-6580 fax: 202/797-6583 web page: www.pinchot.org

--Left Blank Intentionally --

TABLE OF CONTENTS

Report Purpose and Development ---------- **5**

Background Information ---------- **5**

Goal #1: Improving Fire Prevention ---------- **7**

General Perceptions ---------- **7**

Key Lessons Learned ---------- **10**

Goal #2: Reducing Hazardous Fuels ---------- **11**

General Perceptions ---------- **11**

Key Lessons Learned ---------- **13**

Goal #3: Restoring Fire-Adapted Ecosystems ---------- **14**

General Perceptions ---------- **14**

Key Lessons Learned ---------- **18**

Goal #4: Promoting Community Assistance ---------- **19**

General Perceptions ---------- **19**

Key Lessons Learned ---------- **24**

Acknowledgements ---------- **25**

Appendix A: Interview Questions ---------- **27**

Appendix B: The NEPA Process for the Burned Area Recovery Plan ---------- **30**

Appendix C: Contract Mechanisms Used and Questions Asked Regarding Project Details ---------- **31**

-- Left Blank Intentionally --

REPORT PURPOSE AND DEVELOPMENT

During the summer of 2000, wildfires burned approximately 307,000 acres of the 1.6 million acre Bitterroot National Forest (BNF), as well as 50,000 acres of private and State forestlands and 70 homes in Ravalli County, Montana. The portion of "the fires of 2000" that burned near the East Fork of the Bitterroot River was the largest fire complex to burn in the United States that year. Collectively, the Bitterroot fires of 2000 burned from late July until early October.

The purpose of this report is to share some of the "lessons learned" from the Bitterroot Valley's experience with the fires of 2000.[1] These lessons have been primarily distilled from in-person and telephone interviews with a diversity of stakeholders, including representatives of the United State Department of Agriculture (USDA) Forest Service, Ravalli County, the Bitter Root Resource and Development Council, the environmental community, the timber industry, and others. In total, 23 people were interviewed, most in person (in Montana). While this report does not capture every aspect of what may or may not have occurred in the Valley in relation to the fires of 2000, it does serve as an indicator of which issues still linger in people's minds four years later.

Within the context of the goals set forth by the National Fire Plan (NFP), the collaborative 10-Year Comprehensive Strategy (10-Year Strategy), and the 10-Year Strategy's corresponding Implementation Plan, this report presents a range of perspectives on actions that have taken place or are currently taking place in the Bitterroot Valley to address the following issues: fire prevention, hazardous fuels reduction, burned area restoration and rehabilitation, and community assistance. In an attempt to frame the lessons that emerged from these assessments, Pinchot Institute staff used the "implementation outcomes" detailed in the 10-Year Strategy's Implementation Plan as a guide for creating evaluating questions for the interviews.[2] As these outcomes correspond to the goals of the 10-Year Strategy and the NFP, this report also reflects how these initiatives are perceived to be working in the Bitterroot Valley. Background information on both the NFP and the 10-Year Strategy is provided in the following section of the report.

BACKGROUND INFORMATION

National Fire Plan (NFP)[3]

Adopted in the wake of the many large wildfires that burned throughout the country during the summer of 2000, the U.S. Departments of Agriculture and the Interior developed the NFP to help prioritize interagency efforts for addressing wildfire management in a coordinated fashion. The NFP is cooperatively implemented by the USDA Forest Service, the Department of the Interior's land management agencies (Bureau of Indian Affairs, Bureau of Land Management, Fish and Wildlife Service, and National Park Service), State Foresters, and other interests. It focuses on

[1] The Pinchot Institute for Conservation developed this report for the Bitterroot National Forest with support from the USDA Forest Service and the Ford Foundation.
[2] See Appendix A for the full list of interview questions.
[3] For more information on the National Fire Plan, visit: www.fireplan.gov.

five key points: (1) fire prevention and suppression; (2) hazardous fuels reduction; (3) restoration and rehabilitation; (4) community assistance; and (5) accountability.

10-Year Comprehensive Strategy and Implementation Plan[4]

At the request of Congress, the USDA Forest Service and the Department of the Interior collaborated with the Western Governors' Association to bring together a diverse group of stakeholders – including representatives of other levels of government, tribes, environmental organizations, industry groups, and communities – to develop a long-term strategy for implementing the National Fire Plan in a holistic, yet efficient, manner. What resulted was *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: A 10-Year Comprehensive Strategy* (10-Year Strategy) and its accompanying *Implementation Plan*. The 10-Year Strategy was completed in August 2001, and the Implementation Plan followed in May 2002. The goals of the 10-Year Strategy essentially mirror those of the NFP: (1) improve fire prevention and suppression; (2) reduce hazardous fuels; (3) restore fire-adapted ecosystems; and (4) promote community assistance. The Implementation Plan provides a framework for assessing progress made in meeting these goals. More specifically, it details intended implementation outcomes and presents tasks and performance measures by which progress can be gauged.

Bitterroot National Forest Headquarters, Hamilton, MT. (July 2003)

All photographs in this report were taken by N. Rana (Pinchot Institute for Conservation), unless otherwise indicated.

[4] To view and/or download the 10-Year Strategy, visit: http://www.westgov.org/wga/initiatives/fire/final_fire_rpt.pdf. To view and/or download the Implementation Plan, visit: http://www.westgov.org/wga/initiatives/fire/implem_plan.pdf.

GOAL #1: IMPROVING FIRE PREVENTION

"Losses of life are eliminated, and firefighter injuries and damage to communities and the environment from severe, unplanned and unwanted wildland fire are reduced." (*10-Year Strategy Implementation Plan, stated outcome.*)

GENERAL PERCEPTIONS

Public Education and Access to Information

Across the board, interview participants agreed that the fires of 2000 have had a profound effect on the way the people of the Bitterroot Valley think about and react to wildfire. All forms of media covered the fires closely that summer. While some people felt the media coverage exacerbated levels of fire-related anxiety among the general public, others felt it provided a valuable service in increasing the Valley residents' awareness of the realities associated with living within a fire-dependent ecosystem. Generally speaking, though, interview participants acknowledged that there is much more information available now to advise those people who want to take proactive steps to protect their homes from wildfire. However, as one person mentioned, there are a lot of newcomers to the Valley – many from out of state - and, often, they are not as attuned to the risks associated with wildfires as long-time residents are.

In addition to the media, other groups have been actively informing the public about fire prevention. One of these is the Bitterroot Interagency/Community Recovery Team (BIRT), which has provided local citizens with recommendations for what they can do to mitigate their homes' exposure to wildfire.[5] In addition, the Fire Smart Wagon, a mobile fire information resource that travels throughout the Bitterroot Valley and is jointly sponsored by the BNF, the Bitter Root Resource Conservation and Development Area (RC&D), and the Montana Department of Natural Resources and Conservation (DNRC), provides up-to-date statistics related to fires burning in the area and helps people understand what it means to be "firewise."[6]

Fire Smart Wagon.
(July 2004, photo provided by the BNF)

Risk Prevention Planning

Some interview participants pointed to the 2003 community fire plan that was developed by the rural fire departments, the state lands department, the Bitter Root RC&D, community leaders, and

[5] The BIRT is a cooperative effort of federal, state and county governments, local businesses and organizations (from www.fs.fed.us/r1/bitterroot/recovery/2000_archive/9_18_birt_workday.htm).
[6] Sponsored by the National Wildland-Urban Interface Fire Program, "Firewise Communities/USA" is an effort aimed at educating homeowners and others about how to protect their families and structures from the risks posed by wildfire. For more information on the Firewise program, visit: www.firewise.org.

the BNF to identify and prioritize the areas of the Bitterroot Valley faced with the greatest fire risks/hazards, as evidence of the Bitterroot Valley community's ability to learn from past experience in order to more comprehensively prepare for the future. At the same time, other interview participants feel that risk prevention efforts within the Valley have fallen short of being comprehensive because significant consideration of landscape-level effects has seemingly not been demonstrated.

Defensible Space

Wildfire burning on the BNF near Hamilton, MT. (July 2003)

As indicated in several interviews, grants from the Forest Service have made it possible for both the Montana DNRC and the Bitter Root RC&D to help homeowners create defensible space around their houses by clearing underbrush and chipping removed fuels. However, not everyone whose home is at risk seems to be interested in taking advantage of this assistance, which, in some cases, is free. As one interview participant explained, some people claim to be too busy and/or do not think that any harm will actually come to their property. This situation has been a frustration for those who believe that the "defensible space" approach to fire prevention can be effective if widely implemented. It was suggested during more than one interview that homeowners' insurance companies covering clients in wildfire-prone areas should develop or enforce requirements for the creation of defensible space around residences.

Partnerships

While most interview participants commended the efforts of the local volunteer fire departments, the County emergency services, and the sheriff's department to respond to the fires of 2000, the need for building the capacity of these entities was duly noted. In one interview, it was mentioned that the Valley's sheriff had to work around the clock for two months straight during the 2000 fire season because there was no replacement for him. In addition, the fires of 2000 truly tested the capacity of the County's disaster and emergency services, and it was realized that coordination of efforts was lacking. Since that time, an emergency services coordinator has been hired to help facilitate communication between these providers.

Funding

In general, the majority of interview participants feel that the level of financial support for fire prevention has been inadequate, due in part to the redirection of funds to activities other than those on the ground in the Valley. One BNF representative speculated that the reason it has been difficult for the Forest to secure funds for fire prevention and fuels reduction is because its wildland-urban interface (WUI) is not as vast as WUIs in other parts of the country where the population is higher and more densely concentrated.

Results

Feelings expressed about the results of fire prevention efforts varied. Some of the interview participants believe that actions taken by the BNF and others have notably reduced risks associated with wildfire. This assessment not only refers to what has been done on the National Forest but also to the work accomplished on private lands. In addition, the BNF's firefighting capacity has increased since 2000, and this has better prepared it to reduce or prevent risks associated with wildfire. Alternatively, other interview participants feel it is too early to tell whether or not wildfire-related risks throughout the Valley have truly been reduced, as compared to before the fires of 2000, because the efforts to date have been incremental.

KEY LESSONS LEARNED in Improving Fire Prevention

- In the aftermath of a large wildfire, the local public's attention is focused on future risk prevention, therefore it is beneficial to **capitalize on this teachable moment** in order to educate people about restoring fire-adapted ecosystems, fireproofing homes, and reducing hazardous fuels.

- **Planning** for fire prevention is not enough in and of itself. Actions prioritized by the agencies need to be clearly explained and should incorporate the wisdom of past experience in order to be widely accepted by the general public.

- If private landowners can be encouraged to create **defensible space** around their homes, this action conveys a shared commitment between them and the government agencies for reducing the risks posed by wildfire. While both sides are constrained by human and financial resources, a mutual recognition of these limits can help reduce unwarranted "finger pointing" in the case of unavoidable fire-related damages.

GOAL #2: REDUCING HAZARDOUS FUELS

"Hazardous fuels are treated, using appropriate tools, to reduce the risk of unplanned and unwanted wildland fire to communities and to the environment." (*10-Year Strategy Implementation Plan, stated outcome.*)

GENERAL PERCEPTIONS

Mechanical Treatment

While some segments of the environmental community, local and otherwise, are against logging on public lands (including mechanical treatment for hazardous fuels reduction), almost all of the interview participants for this study acknowledged that such a position is not a reasonable option for the Bitterroot Valley. At the same time, there are differences of opinion among interview participants regarding *where* mechanical treatments should occur – in the WUI only or in the backcountry as well. Regardless of these differences, however, there seems to be consensus among the people interviewed that reducing hazardous fuels in the WUI is a good place to start.

Outside of the environmental community, many of the interview participants feel that the anti-logging lobby against mechanical treatment has presented a barrier to hazardous fuels reduction in the Bitterroot Valley. As a result, BNF officials have tried to assure the public that when hazardous fuels are being removed mechanically, it is being done in ecologically sound ways and without economic return as the driving force. Based upon the interviews conducted, there seems to be general agreement among BNF representatives that some level of mechanical thinning has to take place in order to safely implement less controversial treatments, such as prescribed burning and wildland fire use. Others outside of the agency echoed this sentiment.

Priority Setting

Overall, interview participants consider priority setting for hazardous fuels reduction on the BNF an important task. Although claims were made by some interview participants that most of the BNF's fuels reduction is taking place on the Forest's burned areas – the majority of which is in the WUI – it is unclear to other interview participants that the WUI is truly a priority area for this type of work. While not in direct response to this question of priority setting, one BNF representative indicated that the agency worked with Bitterroot Valley community members right after the fires of 2000 to help determine where hazardous fuels reduction treatments should occur in order to allay fears regarding the future safety of people and structures. Such planning, according to BNF

Area of the BNF burned by the fires of 2000. (June 2003)

representatives, also took into consideration the best scientific research available regarding the impacts and effectiveness of various approaches to hazardous fuels reduction.

Funding

The majority of interview participants conclude that funding allocations for hazardous fuels reduction projects in the Bitterroot Valley have been inadequate. Whether or not this lack of funding is considered a barrier is not a point upon which everyone agrees, though. Those who think funding is not a significant barrier cite the benefits of tools such as stewardship contracting, which allows for the exchange of goods for services.[7] On the other hand, a number of the people interviewed feel as though the level of funding for hazardous fuels reduction has been woefully insufficient, especially given the magnitude of thinning some see as necessary for the Forest. As one Forest Service representative explained it, hazardous fuels reduction -- on public lands specifically – is often a resource intensive, multi-step activity that incurs costs associated with project design, compliance with the National Environmental Policy Act (NEPA), and implementation. In addition, some interview participants expressed frustration regarding the diversion of the BNF's fire money to suppression activities in other parts of the country despite a local need and desire for meaningful investment in hazardous fuels reduction.[8]

The lack of funding available to private landowners for hazardous fuels reduction was also mentioned during several interviews. Thinning can be expensive and even cost-prohibitive for some small landowners. Additionally, the lack of funding for National Forest management overall has led to a downsizing of Forest Service personnel to accomplish tasks such as hazardous fuels reduction, and this is a point raised by several people outside of the agency.

Results

While some of the people interviewed feel it is too early to tell whether or not hazardous fuels treatments have effectively reduced fire risk, others feel that efforts to date have either been inadequate or misguided. Among the Forest Service employees interviewed, the general feeling is that not enough has been done and the pace at which treatment has occurred has been too slow. NEPA and litigation were cited as key factors in slowing down or, in some cases, stopping the fuels reduction process. Many outside the agency share the fear that not enough is getting done to adequately protect communities, even though some of the past agency-implemented treatments have demonstrated an ability to reduce the intensity of fire. At the same time, some BNF officials claim that the Forest has been among the most aggressive in reducing hazardous fuels since 2000.

FIGURE 1. Hazardous Fuels Reduction Accomplishments on the BNF[9]

Total area slated for fuels reduction: 14,500 acres
Total area treated for fuels reduction: 10,900 acres
Total area treated for fuels reduction in the WUI: 250-400 acres

[7] While some of the people interviewed feel the "goods for services" authority has been a benefit to the financial situation regarding hazardous fuels reduction, others (within the Forest Service) disagreed because they believe that much of the work has had to be done through service contracts due to the low monetary value of the fuels being removed. For more information on stewardship contracting, visit: http://www.fs.fed.us/forestmanagement/projects/stewardship/.

[8] See "The Process Predicament: How Statutory, Regulatory, and Administrative Factors Affect National Forest Management," Appendix C, USDA Forest Service, June 2002.

[9] As of November 30, 2003. Information provided by the Bitterroot National Forest.

KEY LESSONS LEARNED in Reducing Hazardous Fuels

- If government agencies **work with local communities** to determine priority areas for hazardous fuels reduction, trust is built and conflict can be reduced. Most people agree that some thinning needs to occur in the WUI, so it makes sense to start there.

- When appropriate, **stewardship contracting** for hazardous fuels reduction can be used to retain receipts and/or exchange goods for services, which helps preserve limited appropriated funds for other important fire-related activities.

- Government agencies should be asking for **more money** from Congress for hazardous fuels reduction because it can be an extensive, expensive task. In order to be fully effective, treatments needs to occur on public and private lands. An upfront investment in hazardous fuels reduction can save on future fire suppression costs.

GOAL #3: RESTORING FIRE-ADAPTED ECOSYSTEMS

"Fire-adapted ecosystems are restored, rehabilitated and maintained, using appropriate tools, in a manner that will provide sustainable environmental, social, and economic benefits." (*10-Year Strategy Implementation Plan, stated outcome.*)

GENERAL PERCEPTIONS

Restoration Activities

While many of the BNF representatives interviewed support mechanical treatment of hazardous fuels as part of the restoration process, their general characterization of the agency's primary goal in post-fire restoration is returning natural fire regimes to the BNF ecosystem. Watershed restoration activities, as well as fuels reduction and salvage logging, are considered important steps in achieving this goal.

Lower Took Fish Passage Culvert. (July 2004, photo provided by the BNF)

According to BNF staff, watershed restoration work on the Forest began immediately after the fires of 2000 and is ongoing. Priorities for watershed improvement treatments are based on a list developed by the U.S. Fish and Wildlife Service, with the highest priority drainages being those with bull trout populations, followed by those with westslope cutthroat trout.

Prescribed Burning vs. Mechanical Treatment

Based upon the interviews conducted, the BNF considers itself a leader in wildland fire use, particularly because 47% of the Forest is designated Wilderness and previous, naturally ignited fires have been allowed to run through these areas.[10] For the remaining 53% of the Forest, however, there are no plans in place for allowing wildland fire use or even extensive prescribed burning – at least not until the majority of the thinning in the WUI has been accomplished.

Although the Forest Service as a whole supports the application of prescribed burns for fuels management, some BNF employees warn that without prior mechanical fuels treatment, this approach cannot be safely undertaken in many areas of the Forest. As one agency representative said, if the Forest Service could treat fuels with prescribed fire alone, it would do so because it is less objectionable to most people and, therefore, is less litigated than mechanical treatment projects. This same individual expressed that unless mechanized hazardous fuels reduction is considered true restoration, there will be resistance to it.

[10] Wildland Fire Use is the management of naturally ignited fires to achieve resource benefits, where fire is a major component of the ecosystem (taken from: www.fs.fed.us/fire/fireuse/wildland_fire_use/use_index.html)

Roads

Road maintenance and decommissioning are activities that not all interview participants agree have received ample attention in the wake of the fires of 2000. There is concern among some environmentalists that if more roads are not removed from the BNF, the quality of its watersheds will degrade due to runoff and post-fire siltation. There is also concern over the fact that the tires of vehicles using these roads can transport the seeds of invasive plant species into previously uninfected areas. This is a heightened concern within recently burned areas, as they are even more vulnerable to the infestation of invasive, often non-native, plants. Several people noted noxious weed treatment, for knapweed specifically, as an overlooked but increasingly more serious post-fire restoration issue.

Salvage Logging

BNF post-fire logging deck. (June 2003)

Although only some of the interview participants consider salvage logging a restoration activity, it will be discussed in this section of the report.[11] Regardless of this discrepancy, it is clear that there is frustration on both sides of the debate. On the one hand, some feel that BNF ecosystems were in a degraded state after the fires and that salvage logging has further aggravated the fragile ecology of the region. One person noted that the operation of logging trucks and harvesting equipment in the burned areas has exacerbated the ecological damage that restoration efforts, like graveling, were attempting to minimize. However, it was pointed out in other interviews that some active restoration was needed to address the ecological disturbances caused by activities prior to the fires of 2000, like road building and the establishment of single-species plantations.

Those interview participants who support salvage logging wished the initial harvests would have occurred more quickly so that the maximum economic value of the timber removed could have been realized. To those who maintain this position, it seems that the removal of dead and/or dying timber is something that has to take place before other restoration activities can ensue. According to one of the industry representatives interviewed, 1.5 MMBF of timber were lost as a result of the fires of 2000, at a loss of approximately $700 million. This has caused some frustration in the industry community because it is believed that such revenue, if captured in a

[11] Subsection (a) of §2001 of Pub. L. No. 104-19 defines a salvage timber sale as: "a timber sale for which an important reason for entry includes the removal of disease- or insect-infested trees, dead, damaged, or down trees, or trees affected by fire or imminently susceptible to fire or insect attack. Such term also includes the removal of associated trees or trees lacking the characteristics of a healthy and viable ecosystem for the purpose of ecosystem improvement or rehabilitation, except that any such sale must include an identifiable salvage component of trees described in the first sentence." (Taken from CRS Report 96-163 A - The "Timber Rider": Section 2001 of the Rescissions Act.)

timely manner, could have then been reinvested to support other restoration priorities on the ground. Some of the BNF representatives interviewed said they felt some pressure to "get in there and get things done" in terms of salvage logging; however, one agency employee expressed that a lack of reliable research or science related to burned area management, especially regarding salvage logging, has limited their abilities to fully exercise certain management scenarios.

Contracting Tools

The BNF is considering a range of tools available to them to accomplish restoration goals, including stewardship contracting and service contracts (See Appendix C). According to one BNF representative, construction companies have been awarded the bulk of the contracts associated with restoration activities. These companies are all small businesses located in western Montana (except for one contractor, who is based in Kellogg, ID but utilized local laborers).

In 2003, the BNF entered into an agreement with the Army Corps of Engineers to administer several contracts. These contracts focused mainly on: road construction for sediment reduction; road reconstruction to meet the State of Montana's Best Management Practices (BMPs); road obliteration; and replacement of fish barriers.

Funding

Funding for restoration has been and continues to be a topic of much concern in the Bitterroot Valley. Most of the people interviewed acknowledged that some of the BNF's post-fire restoration money was diverted to help pay for fire suppression activities in Arizona, Colorado, and Oregon during the summer of 2002. This money, which totaled $24.5 million, was to be used for restoration work over the next five to eight years. While there is general consensus among the Forest Service representatives interviewed that there is a lack of funding for restoration, there is disagreement over whether or not this has been the main barrier to accomplishing activities on the ground.

According to one BNF representative, the highest priority post-fire restoration projects were also those with the highest unit costs because of their proximity to live streams and coordination with concurrent work in the burned area. Unit costs are expected to decrease over time, and the Forest plans to use capital investment funding and other watershed improvement dollars to support ongoing burned area restoration.

Results

Perspectives on whether or not restoration activities in the Bitterroot Valley have been successful are mixed and derived from varying value systems. As of July 2003, one BNF representative reported that notable advances on replanting, road restoration and decommissioning, and culvert replacement had been made (see Figure 2). While some of the interview participants feel that the BNF has been focused on a variety of restoration-oriented activities, others feel that the agency's highest priority in terms of post-fire restoration goals has been salvaging the burned timber in an attempt to reduce the fuel load.

FIGURE 2. Restoration Accomplishments on the BNF[12]

Road BMP Upgrades: 72.3 miles complete (14%)* / 148.85 miles partially complete

Road Decommissioning: 19.2 miles (29%)

Road Storage: 20.8 miles (19%)

Culvert Replacement: 9 culverts replaced (56%) / 9 under contract

Fish Habitat Improvement: 9 miles (56%)

Riparian Planting: 3.5 miles (78%)

**Percentages expressed are of the total planned for completion.*

[12] As of July 2004. Information provided by the Bitterroot National Forest.

KEY LESSONS LEARNED in Restoring Fire-Adapted Ecosystems

- **Public educational programs/forums** can help people better understand that restoring fire-adapted ecosystems is, in part, about returning forest ecosystems to their natural fire regimes. A greater understanding of fire's natural role in some forests' regenerative cycles is needed in order to adjust the opinion that all fires need to be suppressed.

- Restoration activities should be **defined separately** from hazardous fuels reduction, so as to minimize confusion regarding priority setting, work plans, and intended outcomes.

- The **ecological impacts of salvage logging** need to be researched. In the absence of such information, it is difficult to determine where such activity can and should take place.

- Although not isolated to restoration efforts, the federal government's **"borrowing" of funding** from ongoing program areas to cover suppression costs across the country is a serious issue that needs to be resolved. The BNF had a large portion of its restoration dollars diverted to fighting fires in other states and has not yet been paid back in full.

- If a single government agency is unable to tackle all of the post-fire restoration work needed, it is beneficial to **seek assistance from other sources**. In the case of the Bitterroot fires of 2000, the Forest Service asked the Army Corps of Engineers to administer several contracts for them.

GOAL #4: PROMOTING COMMUNITY ASSISTANCE

"Communities at risk have increased capacity to prevent losses from wildland fire and the potential to seek economic opportunities from treatments and services." (*10-Year Strategy Implementation Plan, stated outcome.*)

GENERAL PERCEPTIONS

Employment Opportunities

Since the fires of 2000, there have been a number of actions taken by the BNF and others to revitalize affected economies through the provision of employment opportunities; however, some of the people interviewed feel as though these efforts have been minimal. To some, it seems as if a lot of attention has been paid to ecological issues, but that the economic impacts of the fires have not been closely considered. When the fires were burning, evacuations and road closures limited access to area business districts, negatively affecting many aspects of local economies. According to some Ravalli County officials, it has been estimated that a total of $45-50 million in income to Bitterroot Valley citizens was lost because of the fires.

Alternatively, the agency-led Burned Area Recovery Team was recognized in several interviews for bolstering employment opportunities after the fires and providing training in restoration techniques for local forest contractors. In addition, the Forest Service issued several types of post-fire grants to aid restoration efforts and assist communities in need. For example, the agency offered grants to support noxious weed treatments on private lands, indirectly helping to create new jobs opportunities for local citizens. Many post-fire Forest Service projects have been designed so that there is an opportunity for local contractors to bid on them. Also, through the NFP, the BNF was able to offer infrastructure grants to mitigate ranchers' loss of hay and cattle fences as a result of the fires.

In September of 2000, the BNF held a public "fair" to provide information on post-fire restoration and economic development activities. Local public and private service providers were invited to convey their offerings.

Small Diameter Utilization

Finding uses for the smaller diameter timber removed as a result of hazardous fuels reduction treatments is another major goal of efforts aimed at providing community assistance in the Bitterroot Valley. However, identifying viable uses for small diameter material and creating markets for resulting products has proven to be challenging. Local and state governments are particularly concerned about this situation. In addition, issues related to limited supply and the retrofitting of mills have been problematic. It was aptly pointed out in one interview that unless there is a consistent supply of small diameter timber, mill owners and entrepreneurs

Inside Pyramid Mountain Lumber, Inc., Seeley Lake, MT. (June 2003)

in the area will not be willing to invest in new infrastructure and technology.

Unfortunately, small diameter harvest systems in the region are not at the point where supply meets demand and profit can be consistently realized; however, grants administered through the BNF's State and Private Forestry have been used to support the exploration of new uses and markets for small diameter timber. Over the past five years, the BNF has been able to offer more timber contracts to those contractors that are creative in their approaches to small diameter utilization. For example, Pyramid Mountain Lumber in Seeley Lake, MT, which gets most of the timber sold off the BNF, was on the verge of closing just prior to the fires of 2000. However, they are re-tooling and looking at different kinds of projects that can utilize the small diameter wood coming off the Forest as the result of hazardous fuels treatments.

Additionally, several interview participants lauded the "Fuels for Schools" program,[13] which got its start in the Bitterroot Valley. The Forest Service holds up this program as a shining example of small diameter utilization for its use of woody biomass harvested during fuels reduction treatments to heat area public schools. The energy produced in this process is cheaper than natural gas, which would normally be used.

Collaborative Networks

Field trip on the BNF. (June 2003)

Positive collaborative relationships are critical to the successful delivery of community assistance for a number of reasons, one of which is trust building. Several examples of collaboration between the BNF and outside groups were mentioned in the interviews. One such effort is the Forest Consensus Council, which was purposefully formed outside the Forest Service, although the agency participates in an informal manner, following the fires of 2000. Coordinated by an independent facilitator, the Council consists of a "diverse group of Bitterroot Valley citizens working together to devise stewardship (mainly fuels reduction) projects on the Bitterroot National Forest."[14]

Another example is the Ravalli County Resource Advisory Committee (RAC). Authorized by federal legislation and initiated by the County government, the RAC is a collaborative body comprised of a diversity of interests that provides a forum for people in the community to work together in addressing resource-based issues of mutual concern.[15] The BNF participates in the

[13] The Fuels for Schools program is a collaborative effort involving public schools, State Forestry Agencies and the Northern and Intermountain Regions of the Forest Service. For more information on the program, visit: www.fuelsforschools.org.

[14] From the *Missoula Independent*, Vol. 15, No. 12, 3/18/04, "Means to an end: Bitterroot logging fight raises old questions about NEPA."

[15] For more information on RACs in Region 1, visit: www.fs.fed.us/r1/forest_range/payment_to_states/racs.htm.

RAC but does not maintain sole decision-making authority in this arena. As the RAC is tasked with recommending projects concerning the use and care of the BNF, among other things, many of the activities it has supported since its initiation in 2000 have been related to post-fire restoration and hazardous fuels reduction.

While the Forest Consensus Council and the RAC are examples of how collaboration is working well, some interview participants expressed frustration with a select portion of the environmental community due to their seeming reluctance to engage in collaborative efforts. Some of the people interviewed within the larger environmental community also maintain this viewpoint. While it was recognized by a staff member of an environmental organization that his/her group has not always actively sought the input of the opposition or maintained open lines of communication among all relevant interests, this person also questioned the appropriateness of collaboration in all cases.

Several people mentioned the existence of a small but powerful group of ardent environmental organizations and activists in the greater Bitterroot Valley. It was noted that it has been difficult to find common ground between the agency and some of these interests. Regarding this situation, some interview participants cited the importance of improved outreach capability on the part of the BNF to the development of partnerships, including those with environmentalists. At the same time, it seems as though many moderate environmental interests in the Valley are open to working collaboratively with the BNF, and, in some cases, has already been doing so.

Generally speaking, little consensus exists among interview participants regarding the success of post-fire collaborative efforts in the Bitterroot Valley. The fires of 2000 presented a crisis that served as a catalyst for collaboration, bringing people together for the protection of their communities and forestlands; however, this cooperative spirit seems to have faded in the face of the salvage logging lawsuits brought against the Forest Service.[16] Several interview participants indicated that the subsequent process of developing the salvage settlement agreement was particularly divisive because only select groups were engaged. Even though there were numerous public meetings between the BNF and outside groups after the fires, during which comments on post-fire activities were submitted, the input received was seemingly not utilized.

BNF Efforts Specifically

Overall, mixed feelings about the BNF's post-fire efforts at collaboration persist. Some BNF representatives expressed great pride in efforts undertaken, acknowledging successful cross-boundary, public-private partnerships forged to accomplish hazardous fuels reduction work. In addition, regional level Forest Service representatives applauded the BNF's ability to leverage State money in order to supplement limited appropriated federal dollars.

Other interview participants recognized the BNF for its cooperation with the greater public and reluctance to rely solely on internal experts. More specifically, it was noted that the work the BNF supported on private lands has helped build credibility and relationships with landowners.

[16] Planning [for the Bitterroot Burned Area Recovery Plan] began in August 2000 and lasted until October 19, 2001, when the notice was published that the final environmental impact statement (EIS) was available. Challenge-related actions began on October 5, 2001, when the Chief sought an emergency exemption from automatic stay, and lasted until February 7, 2002, when the Forest Service reached a mediated settlement with litigants allowing some fuel reduction projects to go forward and canceling others. (From: "The Process Predicament: How Statutory, Regulatory, and Administrative Factors Affect National Forest Management," Appendix C, USDA Forest Service, June 2002.)

According to the agency, some of this rehabilitation work on private lands has occurred as a result of cross-boundary Burned Area Emergency Rehabilitation evaluations performed in the Bitterroot Valley.

Some of the people interviewed, however, remain critical of certain aspects of the BNF's attempts at collaboration. One criticism expressed was that the agency seems to talk so much about collaboration and, yet, does not seem to work with all outside stakeholders in a truly cooperative fashion. For example, with its post-fire assessments, some people felt that the BNF met the bare minimum for "scoping" (as required under NEPA) and did not actively engage outside interests in designing and planning restoration projects. It was also noted that the Forest Service's traditional operating procedures, which rely upon a multitude of rules, manuals, and handbooks, seemingly deter certain employees from looking at the bigger picture and working collaboratively with others outside of the agency. In many cases (and in all cases involving National Forest System lands), the agency is the ultimate decisionmaker, and this reality has served to make some stakeholders in the Bitterroot Valley feel less involved and less vested in the outcomes of collaborating with the Forest Service.

One person suggested that alterations to the Forest Service's public involvement process could improve its collaborative efforts with outside groups. In this person's opinion, changes such as using terminology that is familiar to the general public and addressing contentious issues head on could be very beneficial.

Interagency Collaboration

Another important issue raised during the interviews is the ability of government entities to work with each other effectively when faced with large wildfires. Several people cited the Bitterroot Interagency/Community Recovery Team (BIRT) Multi-Agency Coordinating (MAC) group as a positive example. This organizing body, led by the BNF, the Bitter Root RC&D, and the Montana DNRC, guides the BIRT, which was formed right after the fires of 2000 to serve as a "one-stop shop" for information regarding volunteer efforts, rehabilitation activities, etc. The BIRT MAC group functions on an ad hoc basis, meeting more often during the fire season.

Although concerted efforts in interagency collaboration were made during the fires of 2000, one interview revealed that gaps in these efforts existed. This person claims that during the fires, federally employed firefighters often drove their machinery up County roads, destroying them in some cases, and the County ended up paying most of the cost of rebuilding these roads even though the fire being fought was on the *National* Forest. In other interviews, it was mentioned that, prior to the fires of 2000, local Forest Service units rarely coordinated efforts or initiatives with other agencies. According to one BNF representative, the agency recognizes the key role of volunteer fire departments and sheriffs' offices in reacting to the emergencies but has not necessarily established relationships with the many other local, state and federal agencies in the area.

It was during the fires of 2000 that the BNF gained a better sense of who to engage in various efforts and how to engage them. As revealed in several interviews, one very important partner, especially in terms of fire preparedness, has been the State of Montana, including the DNRC and the State Forester. Ravalli County and the Bitter Root RC&D were also cited as critical cooperators.

Outreach and Public Involvement

Some interview participants recall a number of actions taken to improve community outreach and education during and after the fires of 2000. For example, the BNF hired a Research Management Coordinator (one of the first in the nation) after the fires of 2000. This person, who oversees research efforts on the Forest, relays research results to land managers and the public, while simultaneously facilitating communication between these groups on issues of particular interest (including fuels reduction and post-fire restoration). Another new hire for the BNF has been a Conservation Education Coordinator, who has reached out to some different groups (i.e. home-schooled children and their parents) with her public education programs.

During and after the fires of 2000, both the BNF and the Bitter Root RC&D hosted forums for information dissemination and sharing. The Bitter Root RC&D considers it part of its mission to help people understand that fire is a naturally occurring phenomenon that can be necessary for restoring and maintaining forest and watershed health. And, as part of their post-fire assessment, the BNF conducted a number of public meetings, facilitated by an outside professional, in each of the six communities in the Bitterroot Valley. According to one Forest Service representative interviewed, these meetings did not preclude anyone from appealing the Forest Service, but they did engage a diversity of interests, and general consensus was reached on some of the next steps. In addition, the BNF has been conducting more field trips since the fires of 2000 with different interest groups -- including Congressional representatives. In some cases, these field trips have served to demonstrate the impacts of fire in forest ecosystems where fire has been suppressed over the last century.

Other

There were several other facets of community assistance highlighted during the interviews. One person identified the need for more mental health support for community members whose stress, fear, and/or anger levels were exacerbated as a result of the fires of 2000. Other interview participants emphasized the need for more fire-related, citizen-accessible financial assistance. For example, it was mentioned that some low-cost loans were made available to people right after the fires of 2000 but not sustained over the long term. This proved to be unfortunate for some community members because a 90-day claim period is usually enforced for loans designed to compensate for fire-related damage. Due to the fact that some of the negative fire-related impacts, like erosion, were not apparent until the spring following the fire, such time restrictions severely limited the opportunities for local families and businesses to receive needed assistance. Additionally, a number of uninsured homes were lost in the fires.

KEY LESSONS LEARNED in Promoting Community Assistance

- It is important for government agencies to **know the capacity of local contractors** and to actively engage them in fire risk prevention, hazardous fuels reduction, and restoration work. In some cases, on-the-ground **training** and/or training in contracting may be necessary.

- **Research and investment** in technology regarding the utilization of small diameter timber needs to be better supported financially.

- Where applicable, the **Fuels for Schools** program can be used to encourage small diameter utilization, save energy costs, and promote greater community awareness.

- The **outreach capabilities** of federal agencies like the Forest Service need to be improved in order to encourage more diverse participation in collaborative efforts. In turn, the agencies should **recognize and/or reward** those employees who actively engage in such efforts.

- Government agencies should **utilize existing networks**, like a RAC, to engage outside stakeholders in discussions of fire-related activities.

- The creation of a **multi-agency coordinating group** (like the BIRT MAC) can facilitate effective interagency collaboration.

- Government agencies like the Forest Service need to **improve communication**, internally and externally, in order to be better coordinated and open with the public in regards to fire-related activities. The hiring of a Research Coordinator and an Education Specialist on the BNF notably improved their communication.

- The **post-fire settlement process** imposed on the Bitterroot National Forest served to alienate many people, and has seemingly hindered further collaborative natural resource management efforts throughout the region.

- Government agencies and other public service entities need to be more aware of providing **mental health services** to communities traumatized by large wildfires. In addition, the **financial capacity** of affected communities to recover from wildfire damages needs to be acknowledged.

ACKNOWLEDGMENTS

The Pinchot Institute for Conservation would like to recognize the following people for the time, effort, and insight they lent to this report:

Mary Lee Bailey, Ravalli County Resource Advisory Committee
Paul Belanger, Montana Audubon Society
Byron Bonney, Bitter Root Resource Conservation & Development Area
Larry Campbell, Friends of the Bitterroot
Greg Chilcott, Ravalli County Commission
Nan Christianson, USDA Forest Service, Bitterroot National Forest
Tom France, National Wildlife Federation, Montana
Jim Freeman, Bitter Root Resource Conservation & Development Area
Sue Heald, USDA Forest Service, Bitterroot National Forest
Jeff Juel, The Ecology Center
Matt Koehler, Native Forest Network
Jake Kreilick, National Forest Protection Alliance
Becky Linderman, Bitter Root Resource Conservation & Development Area
Andrea Bedell Loucks, Pinchot Institute for Conservation
Betty Lund, Ravalli County Commission
Kathy McAllister, USDA Forest Service, Region 1
Mary Mitsos, National Forest Foundation
Craig Rawlings, Montana Community Development Corporation
Rodd Richardson, USDA Forest Service, Region 1
Dan Ritter, USDA Forest Service, Bitterroot National Forest
Gordy Sanders, Pyramid Mountain Lumber
Craig Thomas, independent Montana logger
Alan Thompson, Ravalli County Commission
Spike Thompson, USDA Forest Service, Bitterroot National Forest

-- Left Blank Intentionally --

APPENDIX A: INTERVIEW QUESTIONS

Goal #1: Improve Fire Prevention and Suppression

Please note: Suppression will not be the focus of this discussion.

***Implementation Outcome**:* Losses of life are eliminated, and firefighter injuries and damage to communities and the environment from severe, unplanned and unwanted wildland fire are reduced.

Evaluating Question: Have actions taken since the Fires of 2000 reduced the risk of future wildfires and/or better prepared the Valley to respond more effectively to future wildfires?

Supporting Questions and Measures:

1. **Processes used**
    a. How were at risk areas determined?
    b. How were action strategies developed? How did the fires of 2000 influence future preparation?
    c. What steps have been identified as critical for the Valley to take to reduce risks associated with catastrophic wildfire? How were these steps identified?
    d. How were resources secured to support these efforts on both public and private lands?
2. **Accomplishments**
    a. What level of reduction has taken place (tons)? How does one translate this reduction into effective risk mitigation (speak to fire ecologist)?
    b. How much defensible space has been created in the Valley?
    c. What type of infrastructure has been developed as a result (e.g., fires stations, equipment purchase, fire breaks, etc.)?
3. **Next Steps**
    a. What critical risk reduction priorities remain after three years? Why haven't they been addressed and how could others approach the task with more immediate success?
4. **Hindsight Evaluation**
    a. What conditions facilitated this preparation (e.g., funding, priority setting within the agency, policies/authorities)?
    b. In hindsight, what has worked well? What could be done differently next time?

Goal #2: Reduce Hazardous Fuels

***Implementation Outcome**:* Hazardous fuels are treated, using appropriate tools, to reduce the risk of unplanned and unwanted wildland fire to communities and to the environment.

***Evaluating Question**:* How is the Bitterroot Valley accomplishing its goal of hazardous fuels treatment (resources, administrative tools, and contracts used; barriers encountered)?

Supporting Questions or Measures:

1. **Processes Used**
    a. How were hazardous fuel projects & priorities identified? How did that differ on public and private lands?
    b. What strategies did the BNF use to complete NEPA requirements? What was the timeline for NEPA?
    c. How were funds secured?
    d. What innovative authorities were utilized? How were they used?
    e. How were contractors chosen? Was the best value criterion used? What kinds of organizations were awarded contracts (e.g., size, scope, location)? Were subcontractors required? What was the average size of contract? Length of contract? What types of contracts have been used?
    f. What mechanisms are in place to ensure accountability (e.g., monitoring, accounting structures, etc)?
    g. What kind of outreach has been used to communicate successes and challenges?
    h. How much time was required for planning? For collaboration? For contract solicitation and award? For implementation? For monitoring?
2. **Accomplishments**
    a. How many acres were treated (or are in line to be treated in a timely manner)?
    b. Amount of material harvested/removed? Amount of material piled and burned? Amount of material left on-site for wildlife purposes? Percent removed for local processing? Types of processing?
3. **Next Steps**
    a. What changes to this are envisioned in the future?
4. **Hindsight Evaluation**
    c. Were treatments as effective as they should be or did hazardous fuels projects meet original objectives? If not, why? What were the limitations or problems encountered?
    d. Was the funding adequate given other considerations of resources & organizational capacity?
    e. Other than funding, what other barriers were encountered (e.g., NEPA)?

Goal #3: Restore Fire-adapted Ecosystems

Implementation Outcome: Fire-adapted ecosystems are restored, rehabilitated and maintained, using appropriate tools, in a manner that will provide sustainable environmental, social, and economic benefits.

Evaluating Question: What restoration activities has the Bitterroot Valley accomplished and how were these activities implemented (tools, contracts, level of collaboration, funding sources)?

Supporting Questions or Measures:

1. **Processes Used**
    a. What strategies did the BNF use to complete NEPA requirements? What was the timeline?
    b. How were restoration project and priorities identified? How did these differ on public or private lands? What are areas being restored to?
    c. How were funds secured?

d. How were contractors chosen? Was the best value criterion used? What kinds of organizations were awarded contracts (e.g., size, scope, location)? Were subcontractors required? What was the average size of contract? Length of contract? What types of contracts have been used?
e. What innovative authorities were utilized? How were they used?
f. Are mechanisms are in place to ensure accountability (e.g., monitoring, accounting structures, etc)?
g. What kind of outreach has been used to communicate successes and challenges?
h. How much time was required for planning? For collaboration? For contract solicitation and award? For implementation? For monitoring?

2. Accomplishments
a. How many acres were treated (or are in line to be treated in a timely manner)?
b. What kind of restorative activities were accomplished?
c. Amount of material harvested/removed.

3. Next Steps
a. What changes to this are envisioned in the future?

4. Hindsight Evaluation
a. What obstacles were encountered?
b. Was the funding adequate, given other considerations of resources and organizational capacity?
c. Were restoration objectives met?

Goal #4: Promote Community Assistance

***Implementation Outcome**:* Communities at risk have increased capacity to prevent losses from wildland fire and the potential to seek economic opportunities resulting from treatments and services.

***Evaluating Question**:* Have efforts in community assistance contributed to improving the capacity of Bitterroot Valley communities in the following ways: employment development, planning and risk mitigation, strengthening local institutions and collaborative networks, utilization, and community education and awareness?

Supporting Questions or Measures:

1. Processes Used
a. How were communities engaged in planning or implementation?
b. What types of outreach measures were used?
c. What kind of community collaboration, network building and outreach/education were used/developed? How did these differ between public land issues and private land concerns?

2. Accomplishments
a. What kind of jobs were created or maintained? How many jobs? Average wage?
b. What kinds of education, networks, or collaborative groups were developed as a result of efforts?

3. Next Steps
a. What next step activities are planned?
b. What changes are envisioned for the future?

4. Hindsight Evaluation
a. What resources and tools were valuable to the process?
b. What resources or tools were barriers?

APPENDIX B: THE NEPA PROCESS FOR THE BURNED AREA RECOVERY PLAN

Many interview participants expressed concern over the National Environmental Policy Act (NEPA) process following the fires of 2000. While some felt that the NEPA process took too long and was a barrier to "getting things done quickly," others felt that it was done in a record amount of time, especially considering the amount of land it covered. Environmental group representatives interviewed stated that the NEPA process may take a while, but is necessary to have adequate involvement.

The timeline and strategies used by the Bitterroot National Forest (BNF) for the NEPA process are described below.

NEPA Timeline:

- An assessment of the burned area was conducted and documented between October and December of 2000.
- The NEPA process was started in February 2001, and ended in December of 2001

Public Input:

- Several public meetings were held during the writing of the assessment and the Environmental Impact Statement (EIS).
- The University of Montana was solicited to conduct a random telephone survey to determine public opinion on what should be done in the burned area.

NEPA Strategy:

The BNF's strategy for completing NEPA requirements was to create one EIS for the entire burned area, to use the best available science, and to complete the process as quickly as possible. One EIS was preferable to multiple statements for different areas so that cumulative watershed issues could be addressed, and that multiple court cases could be avoided.

In order to expedite the process, BNF leadership spent almost 6 months recruiting and hiring new staff to form an interdisciplinary NEPA team. Ultimately this team consisted of 60 staff that are experts in multiple areas. Unfortunately, many of those new staff were laid off after the NEPA process was completed, due to funding reallocations to fight fires in other Forest Service Regions.

In order to utilize the best available science, a considerable amount of time was taken to gather and analyze relevant literature. Through this process, BNF staff discovered that there was an incredible lack of information and research on how to best rehabilitate burned areas in any forest ecosystem, much less in the Bitterroot Valley. The hiring of a full-time research coordinator, however, eased the burden on other staff and enabled the BNF to be completely up to date on local and regional efforts, and created a direct link between research and land management decisions. Many researchers are now conducting investigations on the BNF's burned areas.

Lesson learned:

Much more research needs to be conducted on salvage logging in burned areas, restoration of burned lands, and other issues dealing with wildfire. A central repository for this type of research would be very valuable to public land managers.

APPENDIX C: CONTRACT MECHANISMS USED AND QUESTIONS ASKED REGARDING PROJECT DETAILS

	CONTRACT MECHANISMS USED		
QUESTIONS ASKED	**Traditional Timber Sales**	**Stewardship Contracts**	**Ecosystem Restoration[17]**
How were contractors chosen?	Highest bidder.	Best value.	Requests for Quotation (sealed bids) and 8a solicitation until 2003, then only 8a.[18]
Types of businesses awarded contracts?	All small, local businesses.		All small businesses in western MT, except one.
Average size of contract?	No data available.		$250,000.
Average length of contract?	2 years.		1 year.
Subcontractors?	Used but not required.		Local subcontractors used extensively.
Time required for planning?	14 months.		1 year.
Time required for solicitation & award?	30-45 days.		6 months.
Time required for implementation?	2 years.		6 months.
Time required for monitoring?	Ongoing.		Ongoing.

[17] These include road construction for sediment reduction and road reconstruction to meet State of Montana BMPs, replacement of fish barriers, and road obliteration.

[18] In 2003, allocated funds exceeded the Forest Service's ability to obligate them, so the agency entered into an agreement with the Army Corps of Engineers to administer several contracts for them. The Corps has only employed 8a solicitations to date.